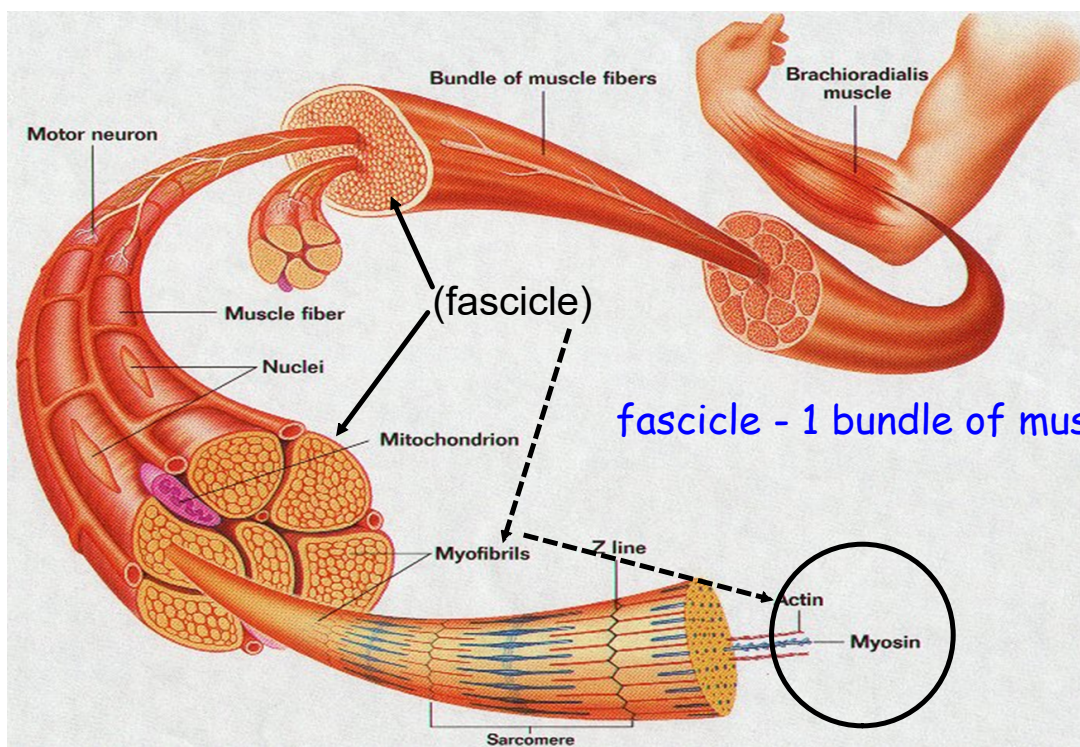


Muscle Contraction

The Sliding Filament Theory



fascicle - 1 bundle of muscles fibers

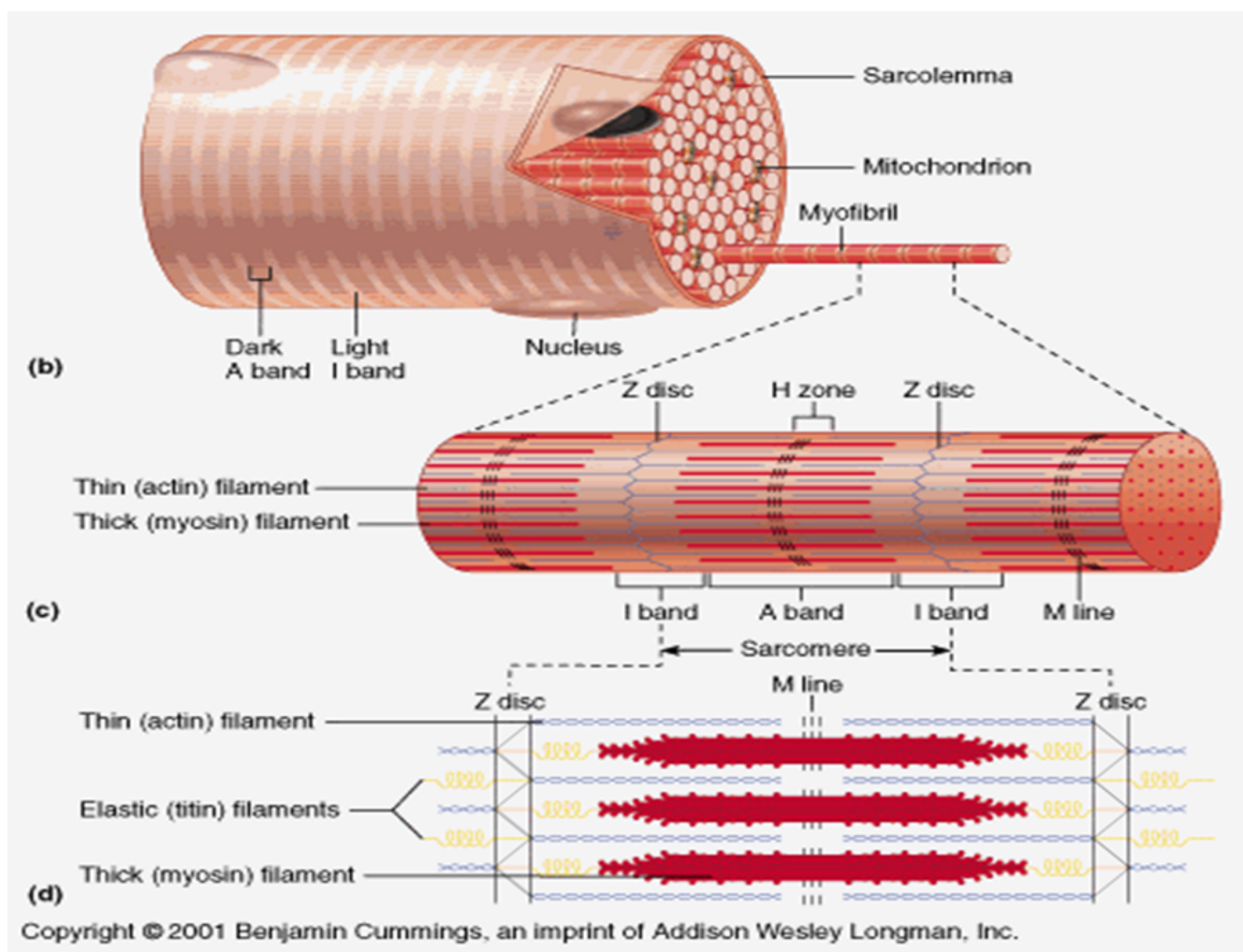
muscle is composed of strands called fascicles

fascicle - is made up of fibers called myofibrils

myofibrils - are made up of smaller fibers called filaments ---- they are sectioned off into parts called SACROMERES

filaments - are made of proteins --- thin filaments are made of the protein ACTIN and thick filaments are made of the protein MYOSIN

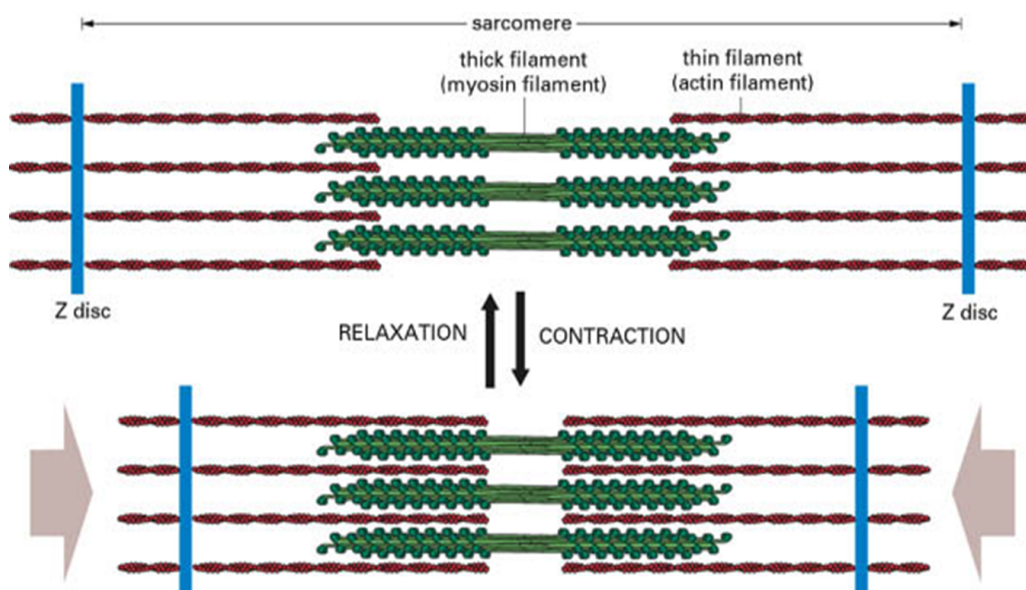
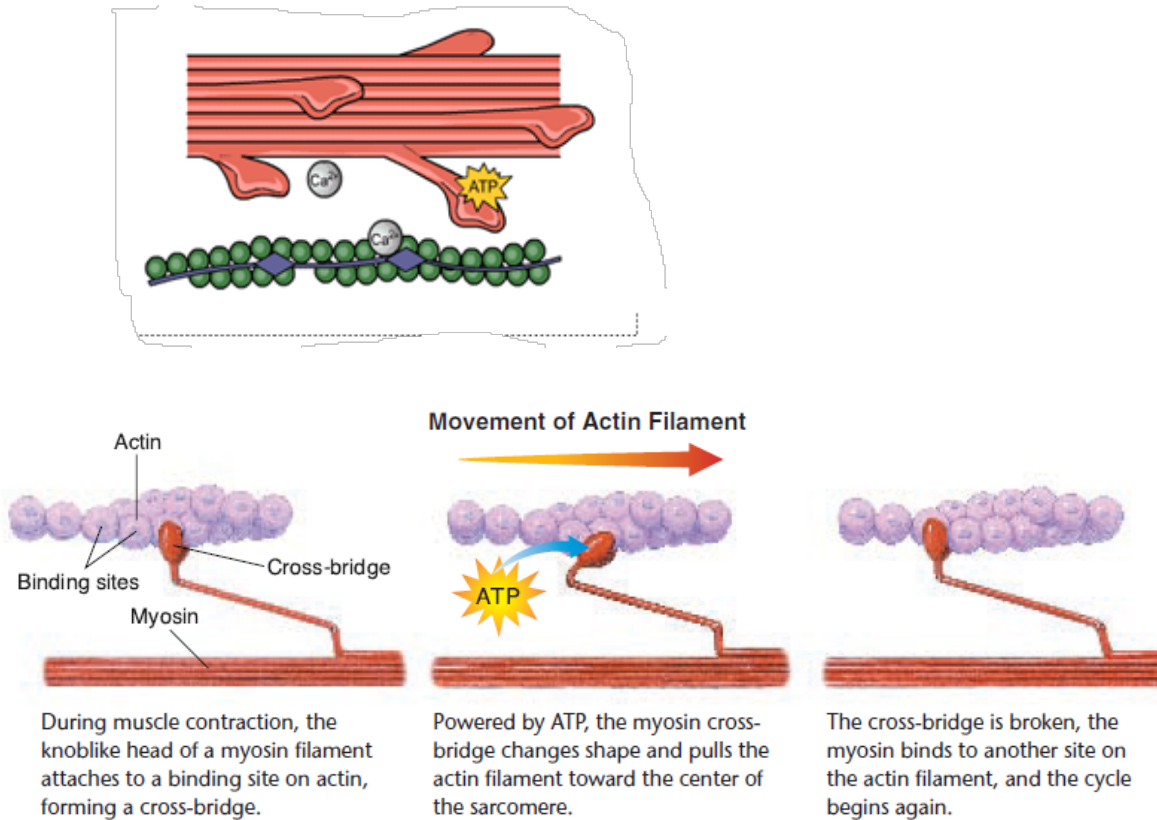
its like a series of smaller straws within one another.



The sliding filament theory

<http://www.youtube.com/watch?v=mejCXr7p37U&NR=1&feature=endscreen>

- On the myosin are cross bridges (hooks)



For a muscle to contract

- myosin wants to hook onto & pull on actin fiber.
- this however is blocked by tropomyosin
- tropomyosin is moved out of the way by calcium & ATP (energy)
- this allows crossbridges to form between myosin & actin.
- myosin pulls on actin which causes the Z lines of a sarcomere to move closer together, shortening the sarcomere.
- this shortens the muscle, which pulls on & move the bone it is attached to.